



# DZD2.0 to 24

Silicon Planar Type

## 0.2W Zener Diodes

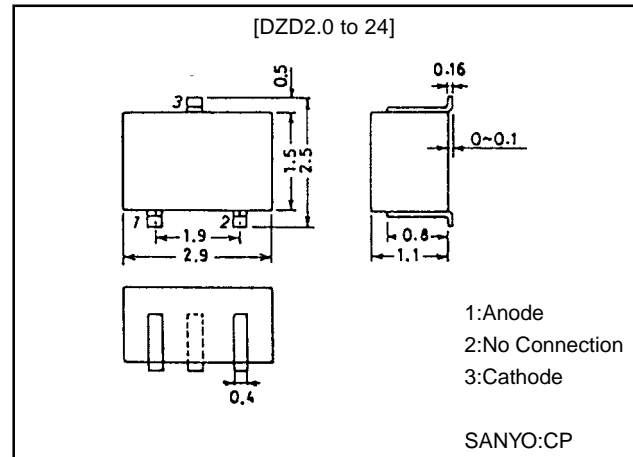
### Features

- Reference voltage use.
- Voltage regulators use.
- Power dissipation : P=200mW.
- Voltage range :  $\pm 2.5\%$  subdivided.
- High reliability due to planar type.
- Ideally suited for use in hybrid ICs because of ultra small package.

### Package Dimensions

unit:mm

1148A



### Specifications

#### Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

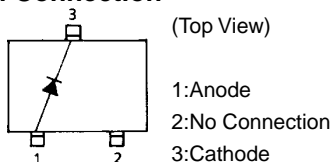
Parameter	Symbol	Conditions	Ratings	Unit
Power Dissipation	P		200	mW
Junction Temperature	$T_j$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

#### Electrical Characteristics at $T_a = 25^\circ\text{C}$

Zener voltage  $V_Z$  will be subdivided into X, Y, Z at your request.

Type No.	Zener Characteristics								Reverse Current	
	Zener Voltage $V_Z$ [V]*					Dynamic Resistance $r_d$ [ $\Omega$ ] $f=1\text{kHz}$		Test Current	$I_R$	Test Voltage $V_R$
	min	max	Sub-division	min	max	typ	max	[mA]		
DZD2.0	1.85	2.15	X	1.85	2.05	60	100	5	120	1.0
			Z	1.95	2.15	60	100	5	120	1.0
DZD2.2	2.05	2.38	X	2.05	2.26	65	100	5	120	1.0
			Z	2.16	2.38	65	100	5	120	1.0
DZD2.4	2.28	2.60	X	2.28	2.50	70	100	5	120	1.0
			Z	2.40	2.60	70	100	5	120	1.0
DZD2.7	2.50	2.90	X	2.50	2.75	80	110	5	120	1.0
			Z	2.65	2.90	80	110	5	120	1.0
DZD3.0	2.80	3.20	X	2.80	3.05	85	120	5	50	1.0
			Z	2.95	3.20	85	120	5	50	1.0
DZD3.3	3.10	3.50	X	3.10	3.35	90	130	5	20	1.0
			Z	3.25	3.50	90	130	5	20	1.0

#### Electrical Connection



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\* :  $t=30\text{ms}$

## DZD2.0 to 24

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### Electrical Characteristics at Ta = 25°C

Zener voltage VZ will be subdivided into X, Y, Z at your request.

Type No.	Zener Characteristics							Reverse Current		
	Zener Voltage V <sub>Z</sub> [V]*					Dynamic Resistance r <sub>d</sub> [Ω] f=1kHz		Test Current	I <sub>R</sub>	Test Voltage V <sub>R</sub>
	min	max	Sub- division	min	max	typ	max			
								[mA]	[μA]	[V]
DZD3.6	3.40	3.80	X	3.40	3.65	90	130	5	10	1.0
			Z	3.55	3.80	90	130	5	10	1.0
DZD3.9	3.70	4.10	X	3.70	3.97	85	130	5	10	1.0
			Z	3.87	4.10	85	130	5	10	1.0
DZD4.3	4.00	4.50	X	4.00	4.23	80	130	5	5	1.0
			Y	4.13	4.35	80	130	5	5	1.0
			Z	4.25	4.50	80	130	5	5	1.0
DZD4.7	4.40	4.90	X	4.40	4.63	60	120	5	5	1.0
			Y	4.53	4.76	60	120	5	5	1.0
			Z	4.66	4.90	60	120	5	5	1.0
DZD5.1	4.80	5.40	X	4.80	5.07	35	70	5	1.0	1.5
			Y	4.97	5.24	35	70	5	1.0	1.5
			Z	5.14	5.40	35	70	5	1.0	1.5
DZD5.6	5.30	6.00	X	5.30	5.63	15	40	5	1.0	2.5
			Y	5.43	5.81	15	40	5	1.0	2.5
			Z	5.61	6.00	15	40	5	1.0	2.5
DZD6.2	5.80	6.60	X	5.80	6.20	8.0	30	5	1.0	3.0
			Y	6.00	6.39	8.0	30	5	1.0	3.0
			Z	6.19	6.60	8.0	30	5	1.0	3.0
DZD6.8	6.40	7.20	X	6.40	6.80	7.0	25	5	0.5	5.0
			Y	6.60	7.02	7.0	25	5	0.5	5.0
			Z	6.82	7.20	7.0	25	5	0.5	5.0
DZD7.5	7.00	7.90	X	7.00	7.43	6.8	23	5	0.5	6.0
			Y	7.23	7.66	6.8	23	5	0.5	6.0
			Z	7.46	7.90	6.8	23	5	0.5	6.0
DZD8.2	7.70	8.70	X	7.70	8.16	5.0	20	5	0.5	6.5
			Y	7.96	8.43	5.0	20	5	0.5	6.5
			Z	8.23	8.70	5.0	20	5	0.5	6.5
DZD9.1	8.50	9.60	X	8.50	9.00	4.0	18	5	0.5	7.0
			Y	8.80	9.30	4.0	18	5	0.5	7.0
			Z	9.10	9.60	4.0	18	5	0.5	7.0
DZD10	9.40	10.60	X	9.40	9.93	4.0	15	5	0.5	8.0
			Y	9.73	10.26	4.0	15	5	0.5	8.0
			Z	10.06	11.60	4.0	15	5	0.5	8.0
DZD11	10.40	11.60	X	10.40	10.98	4.0	15	5	0.5	8.5
			Y	10.73	11.26	4.0	15	5	0.5	8.5
			Z	11.06	11.60	4.0	15	5	0.5	8.5
DZD12	11.40	12.60	X	11.40	11.93	3.0	15	5	0.5	9.0
			Y	11.73	12.26	3.0	15	5	0.5	9.0
			Z	12.06	12.60	3.0	15	5	0.5	9.0
DZD13	12.40	14.10	X	12.40	13.08	3.0	15	5	0.5	10.0
			Y	12.88	13.57	3.0	15	5	0.5	10.0
			Z	13.37	14.10	3.0	15	5	0.5	10.0
DZD15	13.80	15.60	X	13.80	14.63	3.0	15	5	0.5	11.0
			Y	14.33	15.11	3.0	15	5	0.5	11.0
			Z	14.81	15.60	3.0	15	5	0.5	11.0
DZD16	15.30	17.10	X	15.30	16.10	3.0	18	5	0.5	12.0
			Y	15.80	16.60	3.0	18	5	0.5	12.0
			Z	16.30	17.10	3.0	18	5	0.5	12.0

\* : t=30ms

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# DZD2.0 to 24

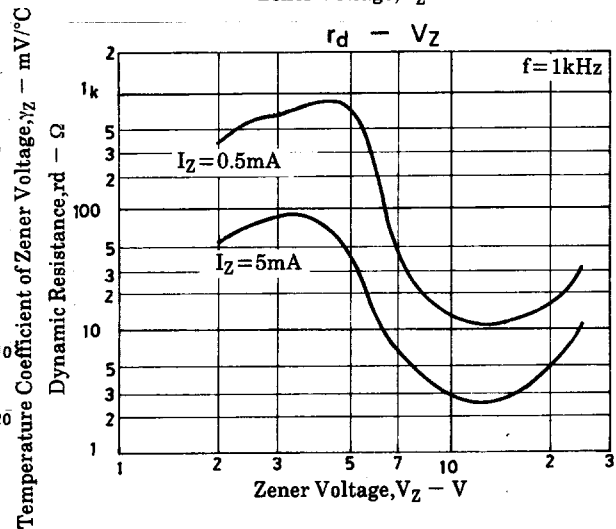
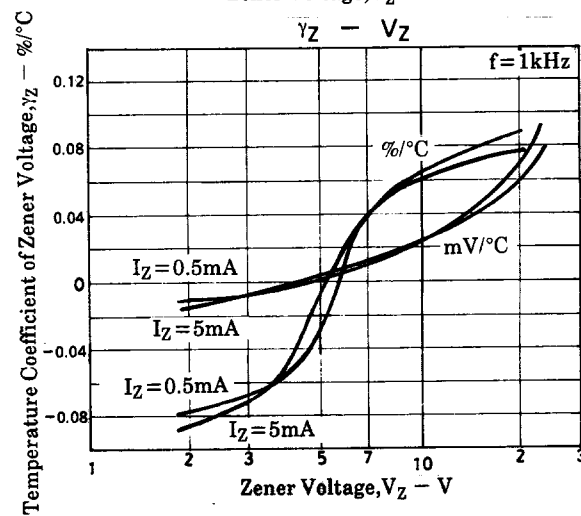
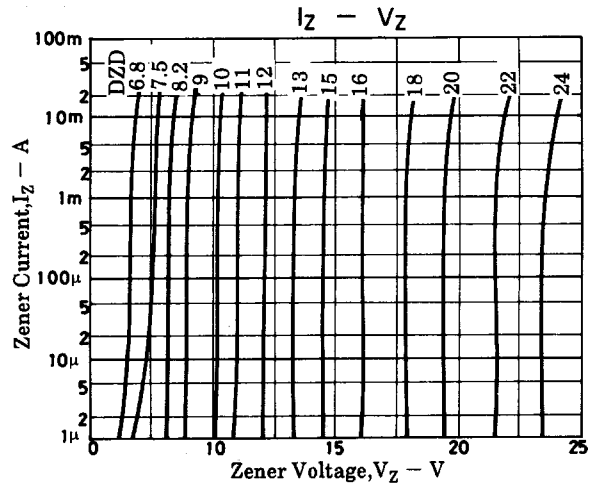
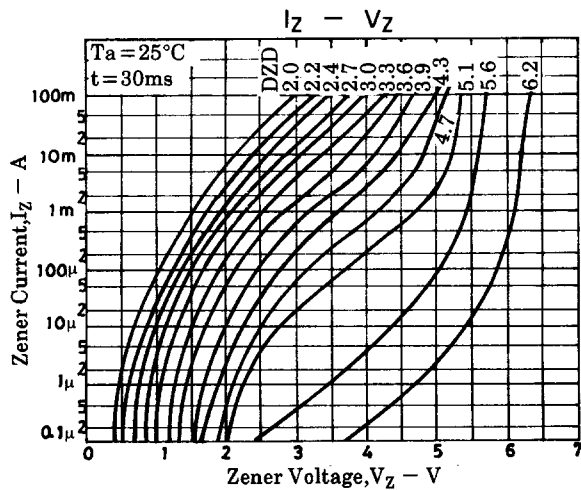
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## Electrical Characteristics at Ta = 25°C

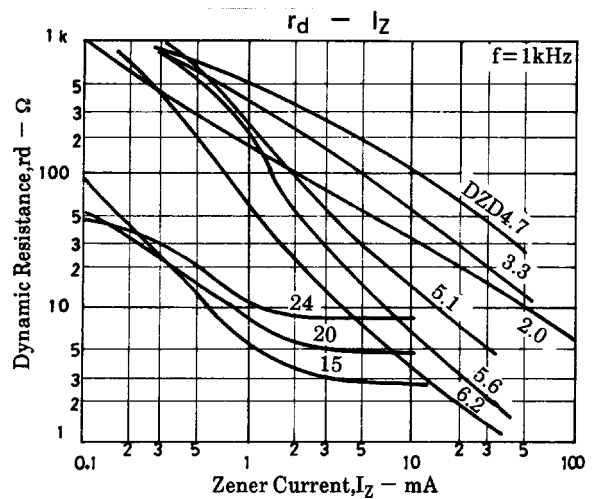
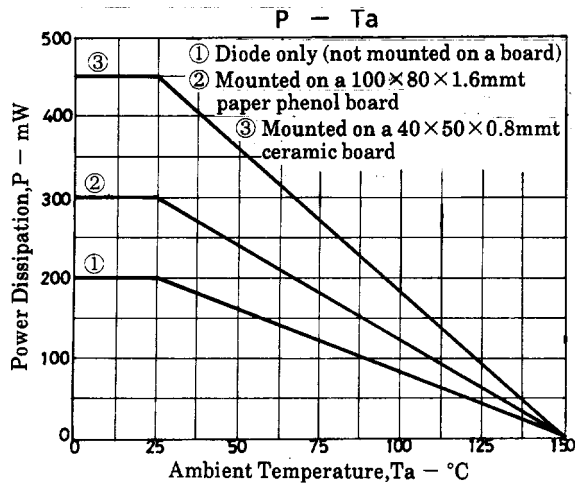
Zener voltage V<sub>Z</sub> will be subdivided into X, Y, Z at your request.

Type No.	Zener Characteristics								Reverse Current	
	Zener Voltage V <sub>Z</sub> [V]*					Dynamic Resistance r <sub>d</sub> [Ω] f=1kHz		Test Current	I <sub>R</sub>	Test Voltage V <sub>R</sub>
	min	max	Sub-division	min	max	typ	max	[mA]		
									μA	[V]
DZD18	16.80	19.10	X	16.80	17.76	4.0	20	5	0.5	14.0
			Y	17.46	18.43	4.0	20	5	0.5	14.0
			Z	18.13	19.10	4.0	20	5	0.5	14.0
DZD20	18.80	21.20	X	18.80	19.78	5.0	25	5	0.5	15.0
			Y	19.48	20.46	5.0	25	5	0.5	15.0
			Z	20.16	21.20	5.0	25	5	0.5	15.0
DZD22	20.80	23.30	X	20.80	21.88	6.0	30	5	0.5	17.0
			Y	21.48	22.56	6.0	30	5	0.5	17.0
			Z	22.16	23.30	6.0	30	5	0.5	17.0
DZD24	22.80	25.60	X	22.80	24.11	8.0	40	5	0.5	19.0
			Y	23.61	24.92	8.0	40	5	0.5	19.0
			Z	24.42	25.60	8.0	40	5	0.5	19.0

\* : t=30ms



## DZD2.0 to 24



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